



**UNITED STATES DEPARTMENT OF COMMERCE**  
**United States Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
097447, 419	11/23/99	TANAKA	H 040894-5507

809629 MM92/0508  
MORGAN, LEWIS & BOCKIUS  
1800 M STREET NW  
WASHINGTON DC 20036-5869

SANTIAGO, M

2879

05/08/01

EXAMINER

ART UNIT PAPER NUMBER

DATE MAILED:

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trad marks**

<b>Office Action Summary</b>	Application No. 09/447,419	Applicant(s) TANAKA, HARUO	
	Examiner Mariceli Santiago	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 6-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claims 6-11 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 November 1999 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

### Attachment(s)

- |  |  |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                     | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____   |
| 16) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____    | 20) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-5, drawn to an organic EL device, classified in class 313, subclass 512.
- II. Claims 6-11, drawn to method of manufacturing an organic EL device, classified in class 445, subclass 25.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the organic EL device can be made by the following method, providing a sacrificial layer, preparing an aluminum material coated with an insulating layer, forming an electrode on the aluminum material, forming the organic EL layer on the electrode, forming a second electrode on the organic EL layer, providing a substrate on the second electrode, etching the sacrificial layer and sealing the organic EL device.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, the search required for Group I is not required for Group II, and have acquired a separate

Art Unit: 2879

status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with William Trousdell on December 8, 2000 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-11 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Drawings***

Figures 2 and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 5,072,263) in view of Ohnuma et al. (US 5,118,986).

Regarding claim 1, Watanabe discloses an EL device (see Fig. 3) comprising a lower electrode (2) formed on a substrate (1), an EL layer (4) formed on the lower electrode (2), an upper electrode (6) formed on the EL layer (4), a sealing member (layers 20 and 10) for sealing the lower electrode (2), EL layer (4) and upper electrode (6) on the substrate (1) so that they are covered with the sealing member (layers 10 and 20), wherein the sealing member (layers 10 and 20) is made of an aluminum material coated with an insulating layer in its inner surface (Column 3, lines 39-42). Watanabe does not disclose the EL device comprising an organic EL layer. However, in the same field of endeavor, Ohnuma discloses an EL device wherein the EL layer is made of organic material since the organic material presents benefits over the inorganic EL materials such as allowing lower driving voltages, the choice of materials can be carried out on large scale, facilitate large surface area luminescence and present higher luminance at a desired wavelength. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the organic EL material disclosed by Ohnuma in the EL device of Watanabe since the organic material presents benefits over the inorganic EL materials such as allowing lower driving voltages, the choice of materials can be carried out on large scale, facilitate large surface area luminescence and present higher luminance at a desired wavelength.

Regarding claim 3, Watanabe discloses an EL device wherein the insulating layer is an aluminum oxide layer. The Examiner notes that the claim limitation of "formed by anodic oxidation of the aluminum material" is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus can not be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113). Therefore, it is the position of the examiner that it would have been obvious to one of ordinary skill in the art that the EL device of Watanabe is at least a fully functional equivalent to the Applicant's claimed EL device as evidenced by Watanabe suggestion of all of the Applicant's claimed structural limitations.

Regarding claim 5, the Examiner notes that the claim limitation of "the aluminum sheet is formed in such a manner that a surface of the aluminum oxide layer is subjected to gas flow-out treatment in vacuum, and thereafter the lower electrode, EL layer and upper electrode are sealed on the substrate in an atmosphere of inert gas" is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus can not be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113). Therefore, it is the position of the examiner that it would have been obvious to one of ordinary skill in the

Art Unit: 2879

art that the EL device of Watanabe is at least a fully functional equivalent to the Applicant's claimed EL device as evidenced by Watanabe suggestion of all of the Applicant's claimed structural limitations.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US 5,072,263) in view of Ohnuma et al. (US 5,118,986) as applied to claim 1 above, and further in view of Glaser (US 4,303,847).

Regarding claim 2, Watanabe-Ohnuma discloses the claimed invention except for the limitation of the aluminum material being a flexible aluminum sheet. However, in the same field of endeavor, Glaser discloses a flat panel display (see Fig. 2) comprising an aluminum material (Column 4, lines 33-38) being a flexible aluminum sheet (18) for the purpose of enabling it to conform to the shape of the electrode structure (i.e. EL element) so that high stresses are established in the glass panel (Column 3, lines 55-58). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the flexible aluminum sheet disclosed by Glaser in the EL device of Watanabe-Ohnuma in order to enable the aluminum sheet to conform to the shape of the electrode structure (i.e. EL element) so that high stresses are established in the glass panel.

Regarding claim 4, Watanabe-Ohnuma discloses the claimed invention except for the limitation of the insulating layer being a porous aluminum oxide layer. However, in the same field of endeavor, Glaser discloses a flat panel display (see Fig. 2) having a insulating layer (16) being a porous aluminum oxide layer (Column 7, lines 16-17) for

Art Unit: 2879

the purpose of providing a uniformly support between the electrode structure and the aluminum sheet (Column 2, lines 10-29). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the porous aluminum oxide layer disclosed by Glaser in the EL device of Watanabe-Ohnuma in order to create a uniform support between the electrode structure and the aluminum sheet.

#### ***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawaguchi et al., in US 4,213,074, discloses a Thin-film EL display panel sealed in glass substrates.

Glaser et al., in US 4,427,479, discloses a flat-panel display having a malleable sealing structure.

Anderson, Sr., in US 4,857,803, discloses an EL device with a sealing structure having aluminum material.

Kondo et al., in US 5,482,614, discloses an EL display panel.

Sakaguchi et al., in US 5,990,615, discloses an organic EL display having a protective sealing.

Sheats et al., in US 6,146,225, discloses an organic EL device having a transparent flexible permeability barrier.



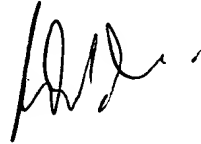
***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (703) 305-1083. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

*MSgtgo 5/2/01*  
Mariceli Santiago  
Patent Examiner  
Art Unit 2879

  
NIMESHKUMAR D. PATEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800